

U.S. Patent Application Serial No. 10/576,277
Amendment filed January 15, 2010
Reply to OA dated September 17, 2009

REMARKS

Claims 1-3, 5-9, 11 and 12 are pending in this application. Claims 1 and 7 are amended herein. Upon entry of this amendment, claims 1-3, 5-9, 11 and 12 will be pending. The specification is also amended herein. Entry of this amendment and reconsideration of the rejections are respectfully requested.

No new matter has been introduced by this Amendment. Support for the amendments to the claims is discussed below.

Claims 1-3, 5-9, 11 and 12 are rejected under 35 U.S.C. §103(a) as being unpatentable over Tomioka (U.S. Pat. No. 5,079,030) in view of Carpenter (U.S. Pat. No. 5,320,673) and Takashi et al. (JP 2001-149857, a machine translation of the disclosure is provided) and Noritake et al. (JP 2003-117481, a machine translation of the disclosure is provided). (Office action paragraph no. 1)

Reconsideration of the rejection is respectfully requested in view of the amendments to claims 1 and 7. In each of claims 1 and 7, step (1) has been amended to additionally require that “the thickness of the base coating composition (A) applied in the first stage becomes 1 to 5 μm when cured” and “the total thickness of the base coating composition (A) applied in all of the stages in step (1) is 10 to 15 μm when cured.” Support for this amendment may be found at page 27, lines 10 and 11, and at page 15, lines 22 to 29, of the specification.

With this amendment, the method of forming a luster coating film according to the present invention comprises Step (1) of applying an aqueous luster thermosetting base coating composition (A) **in four or five stages**, in such a manner that the thickness of the base coating composition (A) applied in the **first stage** becomes 1 to 5 μm when cured, the thickness of the base coating composition (A) applied in each of the second and subsequent stages becomes 0.3 to 5 μm when cured, and the total thickness of the base coating composition (A) applied in all of the stages is **10 to 15 μm** when cured. More specifically, the method of the present invention is characterized by applying a **base coating film of a specific thickness**, and layering such a film four or five times.

In contrast, Tomioka, the main reference cited by the Examiner, only recites a film coating in which the film thickness in the first stage is 8 μm and the film thicknesses in the second and third stages are 4 μm .

Accordingly, Tomioka is completely silent not only about applying an aqueous luster thermosetting base coating composition (A) in **four or five stages**, but also about the thickness of **1 to 5 μm** of the cured base coating composition (A) applied in the **first stage**.

Unlike the present invention, Tomioka discloses a first painting step of applying a first coat of water base metallic paint by means of a rotary atomizer in a thickness between substantially **50% and 80%** of a required paint coat thickness. Accordingly, in Tomioka, **most of the required paint coat thickness is applied in the first paint coating step** (Claim 1 of Tomioka).

Applicant therefore submits that Tomioka teaches away from the method of the present invention which applies an aqueous luster thermosetting base coating composition (A) in four or five

stages with the total thickness of **10 to 15 μm** when cured, in such a manner that the thickness of the base coating composition (A) applied in the first stage becomes **1 to 5 μm** when cured.

Similarly, none of the Carpenter, Takashi, and Noritake et al. references discloses the method of applying an aqueous luster thermosetting base coating composition (A) in **four or five stages** or at a thickness of **1 to 5 μm** of the cured base coating composition (A) applied in the first stage.

Therefore, the cited references cannot be combined to yield the present invention, which requires a step of applying an aqueous luster thermosetting base coating composition (A) in **four or five stages**, in such a manner that the thickness of the base coating composition (A) applied in the **first stage** becomes **1 to 5 μm** when cured, the thickness of the base coating composition (A) applied in each of the second and subsequent stages becomes 0.3 to 5 μm when cured, and the total thickness of the base coating composition (A) applied in all of the stages is **10 to 15 μm** when cured.

(ii) Further, Applicant submits that the methods of the present claims, as amended, provide a luster coating film with a highly dense texture and high flip-flop property, and that these are **unexpected results** commensurate with the scope of the present invention.

To further demonstrate these effects of the present invention, Applicant here submits a Declaration under 37 CFR 1.132 by Tsukasa Fujieda (signed January 11, 2010) showing measurement results of the highly dense texture and high flip-flop property of a coating film obtained by layering plural base coat films with varied thicknesses and further layering a clear coat on top.

In Experiment 1 in the Declaration (page 8), a base layer is formed in four or five stages in such a manner that the thickness of the base coating composition (A) applied in the **first stage**

becomes 5 μm (i.e., **within the range of 1 to 5 μm**) when cured, the thickness of the base coating composition (A) applied in each of the second and subsequent stages becomes 2.5 μm (i.e., within the range of 0.3 to 5 μm) when cured, and the total thickness of the base coating composition (A) applied in all of the stages in step (1) is 12.5 μm (i.e., within the range of 10 to 15 μm) when cured. As seen in the table on page 11, the resulting coating film has a texture that has a significantly high density and significantly high flip-flop property.

This may be compared with Experiment 2, in which the **thickness of the first stage is more than 5 μm** (specifically, 9 μm). As seen in the table on page 11, the dense texture and flip-flop property significantly decrease even though the layering is performed in the same number of stages and **the same total thickness of the resulting base coating composition is obtained.**

That is, this effect is commensurate with the limitation added to claims 1 and 7, that “the thickness of the base coating composition (A) applied in the first stage becomes 1 to 5 μm when cured.”

As mentioned above, none of the Tomioka, Carpenter, Takashi et al., and Noritake et al. references discloses a method of applying an aqueous luster thermosetting base coating composition (A) in **four or five stages** or the thickness of **1 to 5 μm** of the cured base coating composition (A) applied in the first stage. Therefore, this effect, commensurate in scope with the limitations of the claims, is completely unexpected over these references.

Applicant therefore submits that there are unexpected effects (significantly high density of the texture and significantly high flip-flop property), which are commensurate in scope with the

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limitations of the claims requiring controlling not only the film thicknesses in the second and subsequent stages but also the film thickness in the first stage.

Applicant therefore submits that independent claims 1 and 7, as well as dependent claims 2, 3, 5, 6, 8, 9, 11 and 12 are not obvious over Tomioka (U.S. Pat. No. 5,079,030), Carpenter (U.S. Pat. No. 5,320,673), Takashi et al. (JP 2001-149857) and Noritake et al. (JP 2003-117481), taken separately or in combination.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact the applicant's undersigned agent at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

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In the event that this paper is not timely filed, the applicant respectfully petitions for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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Enclosures: Petition for Extension of Time
 Declaration under 37 CFR 1.132 signed by Mr. Tsukasa Fujieda

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